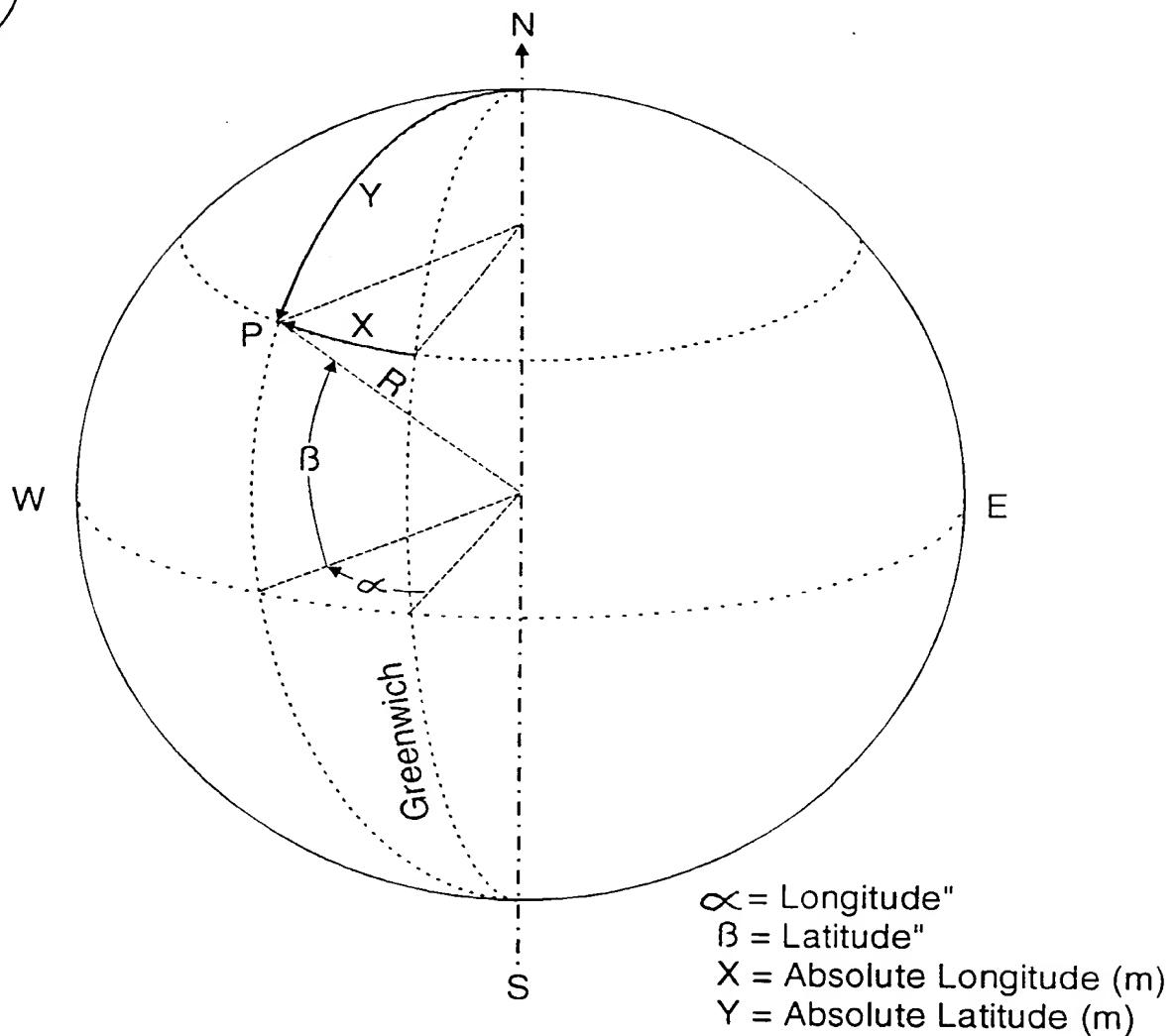




### Absolute Geographic Coordinates (AGCs)



### Absolute Geographic Coordinates (AGCs):

A) For a Point Situated at ( $\alpha$  "W,  $\beta$ "N):

$$X = \alpha \times (2.500/81) \times \cos(\beta \times 90/324.000) \text{ m}$$

$$Y = 10.000.000 - \beta \times (2.500/81) \text{ m}$$

B) For a Point Situated at ( $\alpha$  "E,  $\beta$ "N):

$$X = 1.296.000 - \alpha \times (2.500/81) \times \cos(\beta \times 90/324.000) \text{ m}$$

$$Y = 10.000.000 - \beta \times (2.500/81) \text{ m}$$

C) For a Point Situated at ( $\alpha$  "W,  $\beta$ "S):

$$X = \alpha \times (2.500/81) \times \cos(\beta \times 90/324.000) \text{ m}$$

$$Y = 10.000.000 - \beta \times (2.500/81) \text{ m}$$

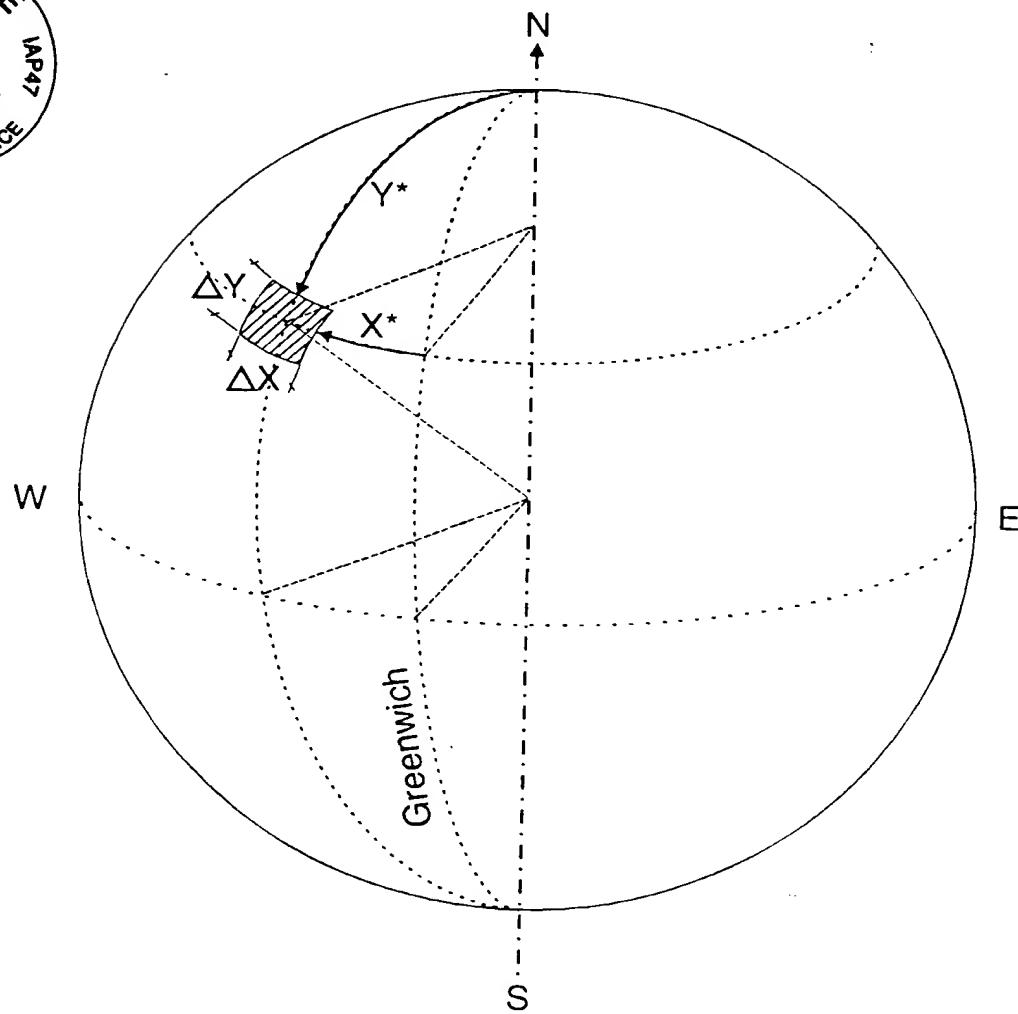
D) For a Point Situated at ( $\alpha$  "E,  $\beta$ "S):

$$X = 1.296.000 - \alpha \times (2.500/81) \times \cos(\beta \times 90/324.000) \text{ m}$$

$$Y = 10.000.000 - \beta \times (2.500/81) \text{ m}$$

FIG.1

## Fuzzy AGCs Determine Geodesic Squares



Given a Point of the Earth with AGCs:

$$X = x_7 x_6 x_5 x_4 x_3 x_2 x_1 x_0$$

$$Y = y_7 y_6 y_5 y_4 y_3 y_2 y_1 y_0$$

Then, the "FUZZY" AGCs:

$$X^* = x_7 x_6 x_5 x_4 x_3^*$$

$$Y^* = y_7 y_6 y_5 y_4 y_3^*$$

Specify the Geodesic Square that contains all AGC1 (X,Y), such that:

$$x_7 x_6 x_5 x_4 x_3 000 \leq X \leq x_7 x_6 x_5 x_4 x_3 999; \Delta X = 1000\text{m}$$

$$y_7 y_6 y_5 y_4 y_3 000 \leq Y \leq y_7 y_6 y_5 y_4 y_3 999; \Delta Y = 1000\text{m}$$

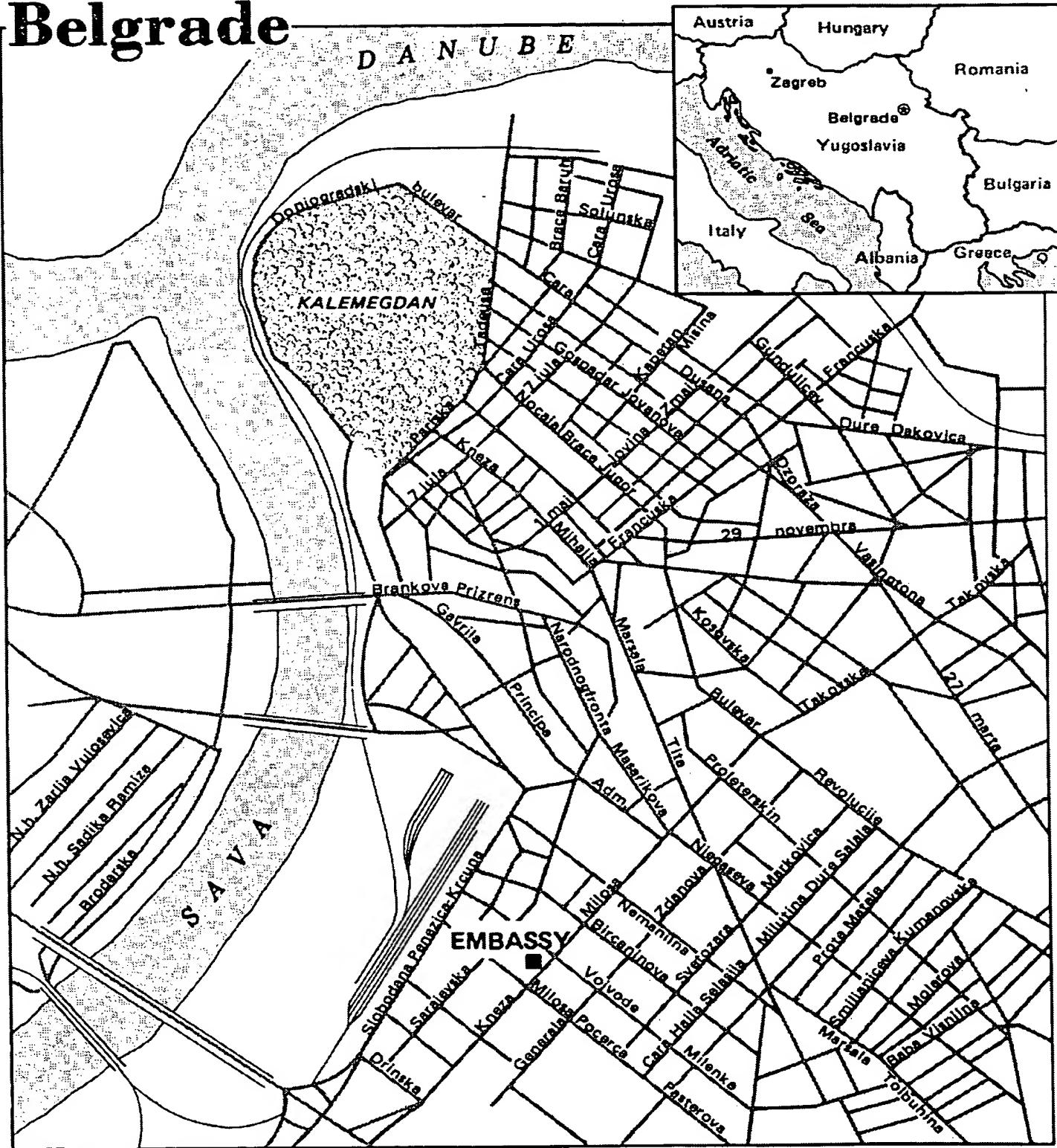
FIG. 2



FR 9 99 030  
INCERTIS CARRO  
3/7

## Conventional Digital Map

# Belgrade

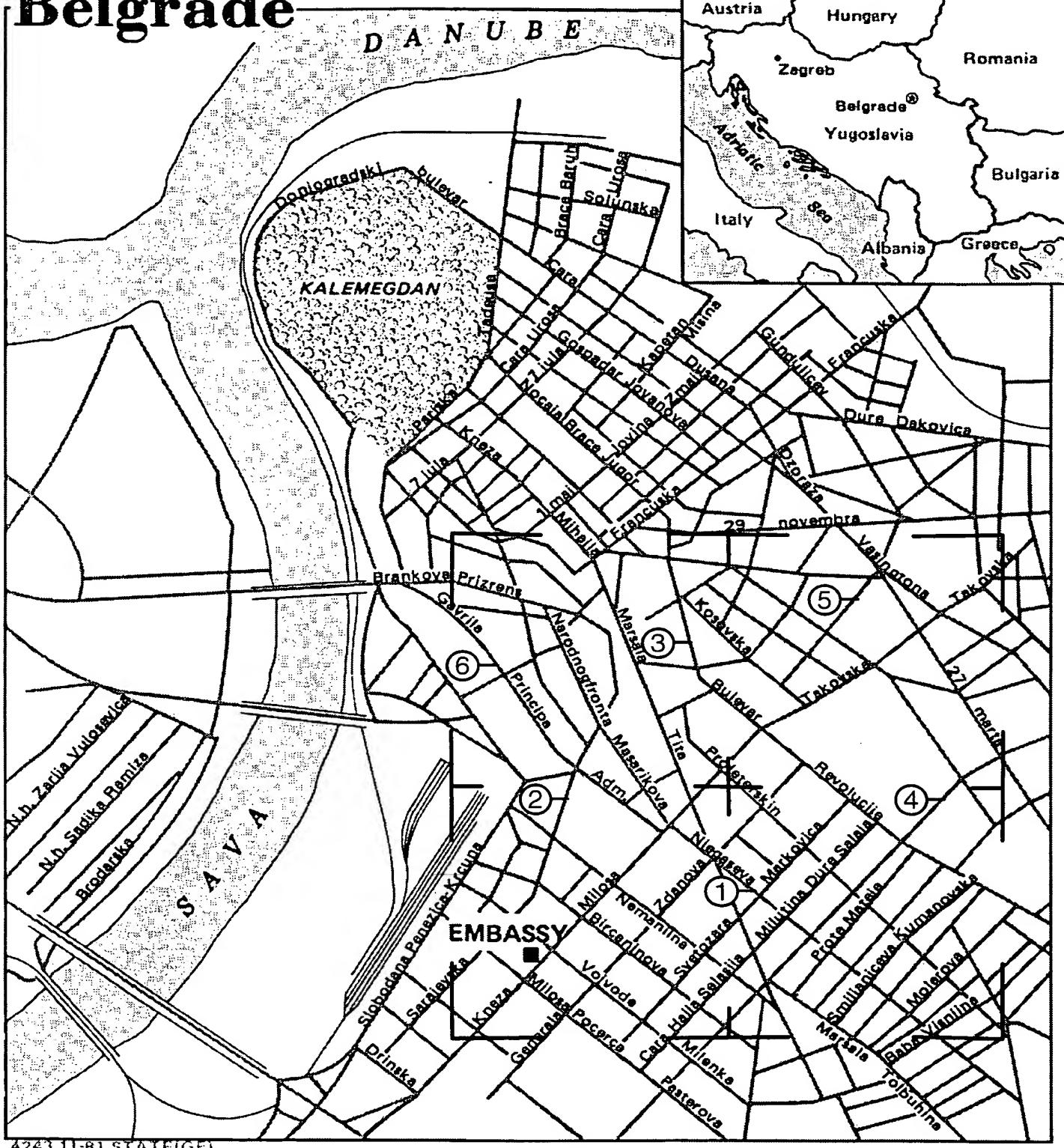


4243 11-81 STATE(GE)

**FIG.3**

## A typical query

# Belgrade



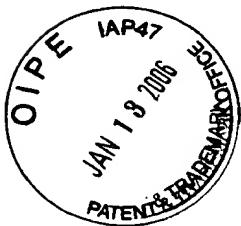
size

query

1 mile

# HOSPITAL

**FIG.4**



Personal Information Locator (PIL)

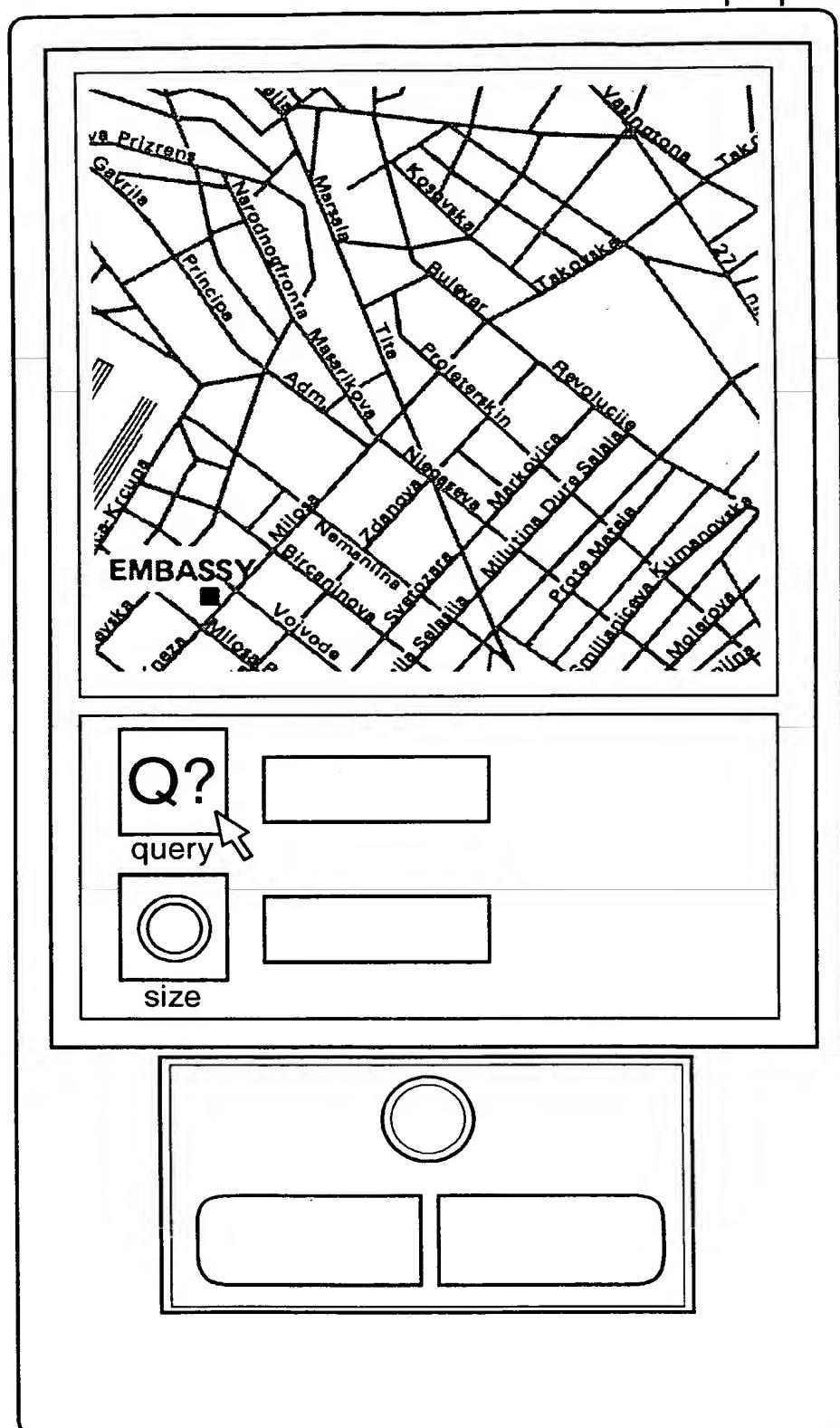


FIG.5

Iconic Map of the Query

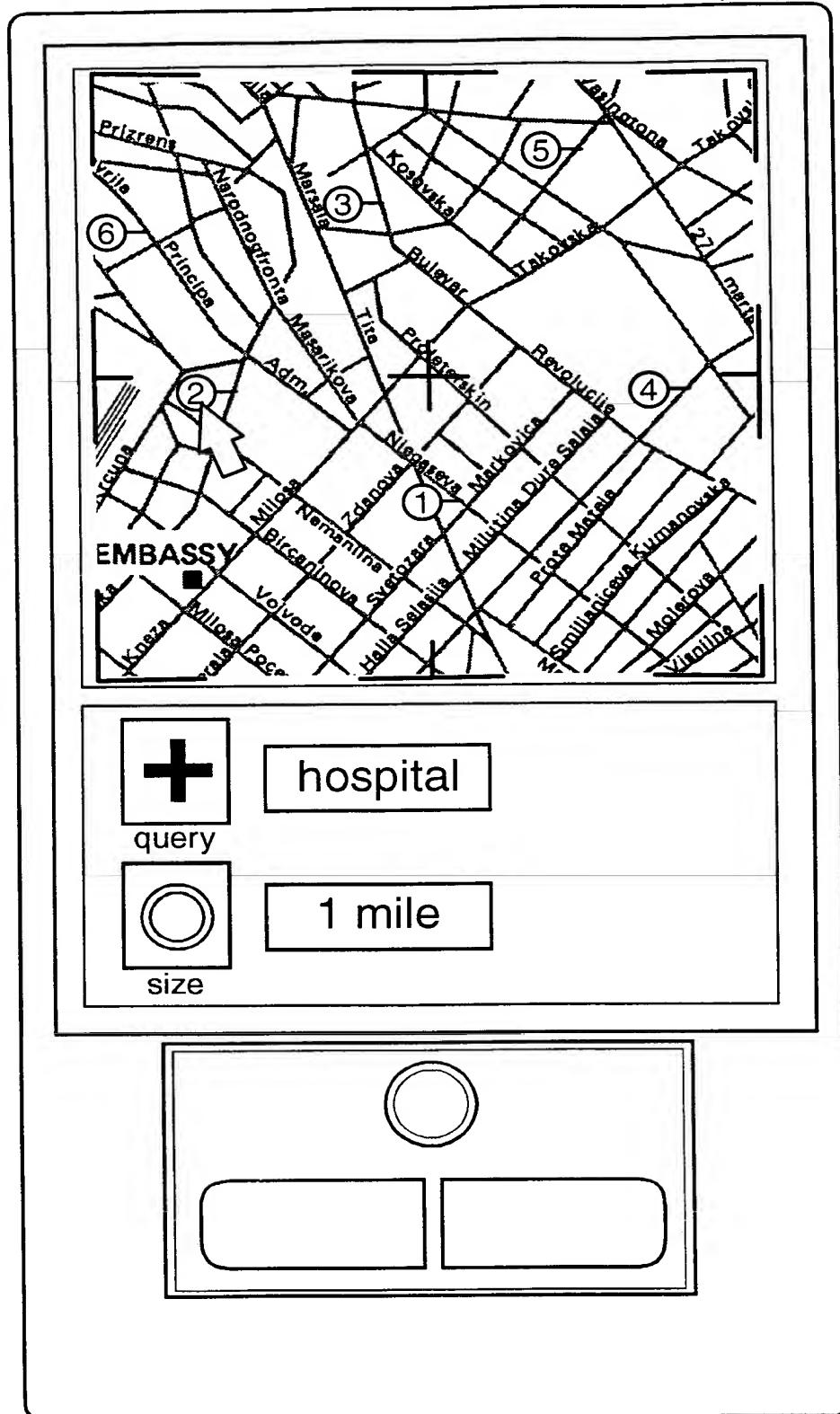


FIG.6

Information from Selected Hyperlink Icon



**[+] Here is the information from the Web about selected Hospital (2)**

The map shows a grid of streets with various names. Key labels include: Prizren, Villa, Nasipdorjana, Kosovska, Takovska, Tita, Bullevar, Revolucija, Markovica, Dura Salaj, Milutina Mataja, Milutina Kumanovska, Molerova, Vrancina, Svetozara, Nemanjina, Birsaginova, Hella Salaj, Vojvode, Stalac, Milica Popovic, and Anica.

Location 2 is marked with a large circle and labeled 'EMBASSY'. Locations 1, 3, 4, 5, and 6 are marked with smaller circles.

FIG.7